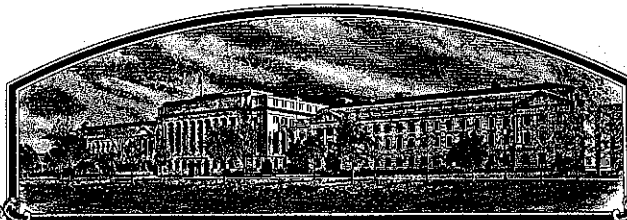


No.

9100031



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

Goertzen Seed Research

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT.

UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS OF THE SEED OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Voyager'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this 30th day of September in the year of our Lord one thousand nine hundred and ninety-three.

Attest:

Kenneth H. Evans

Commissioner

Plant Variety Protection Office

Agricultural Marketing Service

William E. Esch
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) GOERTZEN SEED RESEARCH		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. G1250	3. VARIETY NAME VOYAGER
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) Route 2, Box 43 Haven, Kansas, 67543		5. PHONE (Include area code) 316-465-7744	FOR OFFICIAL USE ONLY PVPO NUMBER 9100031 Date Nov. 29, 1990 Time <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M. Filing and Examination Fee: \$ 2150.00 Date Nov. 29, 1990 Certificate Fee: \$ 250.00 Date Sept. 8, 1993
6. GENUS AND SPECIES NAME Triticum aestivum	7. FAMILY NAME (Botanical) Gramineae		
8. CROP KIND NAME (Common Name) Wheat, common	9. DATE OF DETERMINATION 1988 July 12 Aug 1993		
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) unincorporated business			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION	12. DATE OF INCORPORATION		
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Kenneth & Betty Goertzen, wheat breeders Goertzen Seed Research Route 2 Box 43 Haven, Kansas 67543			

PHONE (Include area code): **316-465-7744**

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

a. ☒ Exhibit A, Origin and Breeding History of the Variety.
b. ☒ Exhibit B, Novelty Statement.
c. ☒ Exhibit C, Objective Description of Variety.
d. ☒ Exhibit D, Additional Description of Variety.
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.
f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office **Nov. 26**
g. ☒ Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.)
☒ YES (If "YES," answer items 16 and 17 below) ☐ NO (If "NO," skip to item 18 below)

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____)
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?
☐ YES (If "YES," give names of countries and dates)
☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.
The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.
Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

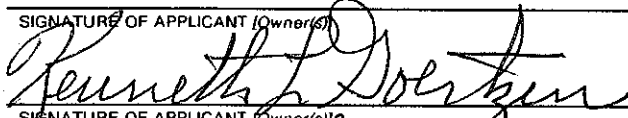
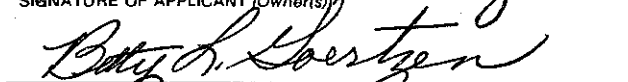
SIGNATURE OF APPLICANT (Owner(s)) 	CAPACITY OR TITLE wheat breeder	DATE 11/26/1990
SIGNATURE OF APPLICANT (Owner(s)) 	CAPACITY OR TITLE wheat breeder	DATE 11/26/1990

EXHIBIT A ORIGIN AND BREEDING HISTORY OF VOYAGER (G1250)

This line was the result of a cross between Bezostaja I and a sib to Plainsman V (G58). A single plant selection was made in the F4 generation in June, 1986. This selection had 10 tillers, was free of stem and leaf rust, was apically awnletted, yellow glumed, and semi dwarf height. It was designated by the experimental number G1250. It was increased and tested as G1250.

The line has appeared stable during three years of testing and during seed increase. It is being maintained as a pure line through isolation and roguing. Breeders seed is being maintained by Goertzen Seed Research. Certified seed levels will be according to Kansas Crop Improvement requirements.

Tall offtypes appear approximately 1 per 1000 plants, brown glumed types appear approximately 1 per 1000 plants, and bearded offtypes appear approximately 1 per 1000 plants.

9100037

EXHIBIT B Novelty Statement for Voyager (G1250)

Plainsman V is the most similar variety to Voyager. Both are used as strong, high protein, blending wheats. They differ as follows.

VOYAGER

apically awnletted
yellow glume color

PLAINSMAN V

awned
brown glume color

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
~~LIVESTOCK AND SEED DIVISION~~
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

GOERTZEN SEED RESEARCH

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

Route 2, Box 43
Haven, Kansas, 67543

FOR OFFICIAL USE ONLY

PVPO NUMBER

9100031

VARIETY NAME OR TEMPORARY DESIGNATION

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g., or) when number is either 99 or less or 9 or less.

1. KIND:

1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

1 = SPRING 2 = WINTER 3 = OTHER (Specify) _____ 1 = SOFT 3 = OTHER (Specify) _____
2 = HARD

1 = WHITE 2 = RED 3 = OTHER (Specify) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

FIRST FLOWERING LAST FLOWERING

4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
4 = LEMHI 5 = HUGAINES 6 = LEEDS
7 = Newton

5. PLANT HEIGHT (From soil level to top of head):

CM. HIGH
 CM. TALLER THAN
 CM. SHORTER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
4 = LEMHI 5 = HUGAINES 6 = LEEDS 7 = Newton

6. PLANT COLOR AT BOOTING (See reverse):

1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHOR COLOR:

1 = YELLOW 2 = PURPLE

8. STEM:

Anthocyanin: 1 = ABSENT 2 = PRESENT

Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT

NO. OF NODES (Originating from node above ground)

Waxy bloom: 1 = ABSENT 2 = PRESENT

Internodes: 1 = HOLLOW 2 = SOLID

CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

Anthocyanin: 1 = ABSENT 2 = PRESENT

Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

Flag leaf at booting stage: 1 = ERECT 2 = RECURVED
3 = OTHER (Specify): _____

Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

MM. LEAF WIDTH (First leaf below flag leaf)

Flag leaf: 1 = NOT TWISTED 2 = TWISTED

Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

CM. LEAF LENGTH (First leaf below flag leaf)

11. HEAD:

☐ 2 Density: 1 = LAX 2 = mid DENSE ☐ 1 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE
 4 = OTHER (Specify) _____
☐ 3 Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED
☐ 2 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED
 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____
☐ 1 ☐ 1 CM. LENGTH ☐ 0 ☐ 9 MM. WIDTH

12. GLUMES AT MATURITY:

☐ 3 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.) ☐ 3 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)
 3 = WIDE (CA. 4 mm.)
☐ 1 Shoulder 1 = WANTING 2 = OBLIQUE 3 = ROUNDED shape: 4 = SQUARE 5 = ELEVATED 6 = APICULATE ☐ 3 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

☐ 1 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

☐ 1 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

☐ 1 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

☐ 1 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL ☐ 1 Check: 1 = ROUNDED 2 = ANGULAR
☐ 2 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG ☐ 1 Brush: 1 = NOT COLLARED 2 = COLLARED
☐ 5 Phenol reaction 1 = IVORY 2 = FAWN 3 = LT. BROWN (See instructions): 4 = BROWN 5 = BLACK
☐ 3 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____
☐ 0 ☐ 6 MM. LENGTH ☐ 0 ☐ 3 MM. WIDTH ☐ 2 ☐ 9 GM. PER 1000 SEEDS

17. SEED CREASE:

☐ 1 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'
☐ 1 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 0 STEM RUST (Races) ☐ 0 LEAF RUST (Races) ☐ 0 STRIPE RUST (Races) ☐ 0 LOOSE SMUT
☐ 0 POWDERY MILDEW ☐ 0 BUNT ☐ 0 OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 0 SAWFLY ☐ 0 APHID (Bydv.) ☐ 0 GREEN BUG ☐ 0 CEREAL LEAF BEETLE
☐ OTHER (Specify) _____ HESSIAN FLY RACES: ☐ GP ☐ A ☐ B ☐ C
☐ D ☐ E ☐ F ☐ G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Plainsman V	Seed size	Bezostaja I
Leaf size	Bezostaja I	Seed shape	"
Leaf color	Plainsman V	Coleoptile elongation	"
Leaf carriage	Bezostaja I	Seedling pigmentation	Plainsman V

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggles and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

9100031

EXHIBIT C Disease Reactions of Voyager are not documented at this time.

14D Exhibit D Additional description of Voyager

Voyager is a semidwarf hard red winter wheat.

The spike is awnletted, mid dense and tapering. /

Glumes are yellow, long, and wide.

The seed is hard red ovate with a medium brush. The crease is narrow with rounded checks. Three or four seeds set per spikelet if moisture and nutrients are adequate.

Position of spike at maturity is erect to slightly inclined.

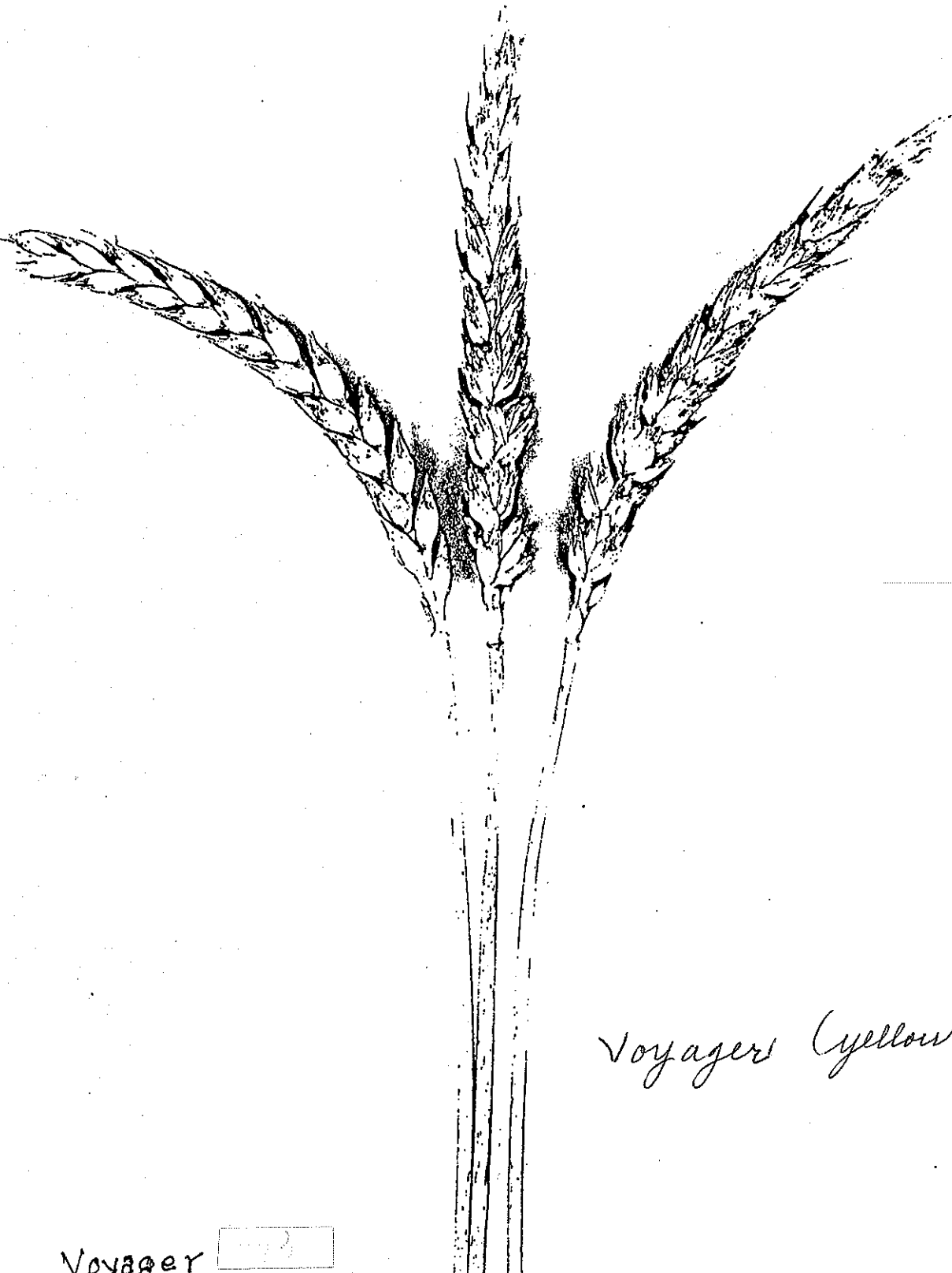
This variety has a long mixing time . The protein level is slightly above average.

9100031



Plainsman V (brown
glumes)

9100031 8



Voyager (yellow glumes)

9

NOV 22 1973

9100031

Flour Milling Division
Western RegionG1250
Voyager

Wheat Quality Report

Lab No. 290Date 5-2-55~~Sample~~ Sample LBS-65Origin UPPEN, KSGrade 4RWDockage Test Wt. 60.3 T.K.W. 288Protein 15.58Moisture 10.5

Milling Data

Amount Cleaned 1500Water Added (C.C.) 90Amount Milled 1589Rating Total Feed 451Remarks % Ext. 75.2

Infestation Report

Whole Fragments Rodent Hair

Flour Analysis

Moisture 14.2Ash .50Color 59Odor 14.40

Forinograph Data

Absorption 67.3Hydration (Min.) 4Peak (Min.) 14 3/4Stability (Min.) 20+M.T.I. 10

Baking Data

Absorption 64.0Crumb Color ofMixing Time (Min.) 15Grain +Volume (C.C.) 3100Texture SilkyBake Rating BOverall Evaluation B-Remarks 10

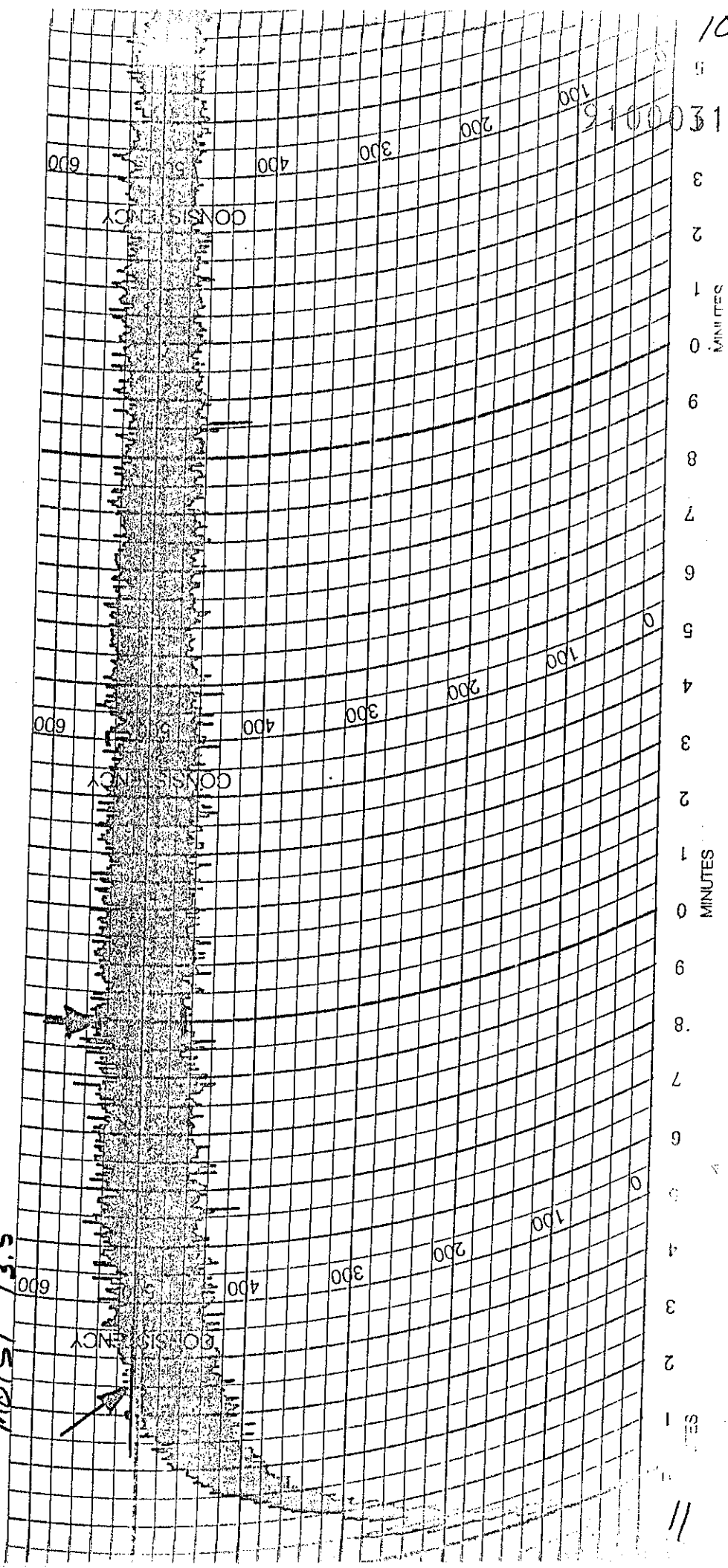


SAMPLE LB 88-90
 DATE AUGUST 17, 1988
 ABSORPTION 62.4
 INITIAL PHASE 3.5
 PEAK 10
 TOLERANCE 31
 MIT 15
8961
MOIST 13.5 63.3

1250

G1250

Voyager



9100031

Evaluation of USDA Grain Marketing Research Laboratory on 1988 Crop

GSR 1250 Voyager

Lab No.	Per. Bu. wt.	Wheat Protein	Flour yield	Flour Ash %	Flour Protein
LB88-90	59.5 lbs	15.11	74.5%	.44	14.7

Dough Mix Time	Bread Crumb	loaf Vol.	Evaluation
Bake Mixogram	Grain Color	100g. Flour.	
6 min	3 3/4 min.	5	5
		1035 cc.	Good

9100031

Printed in U.S.A.

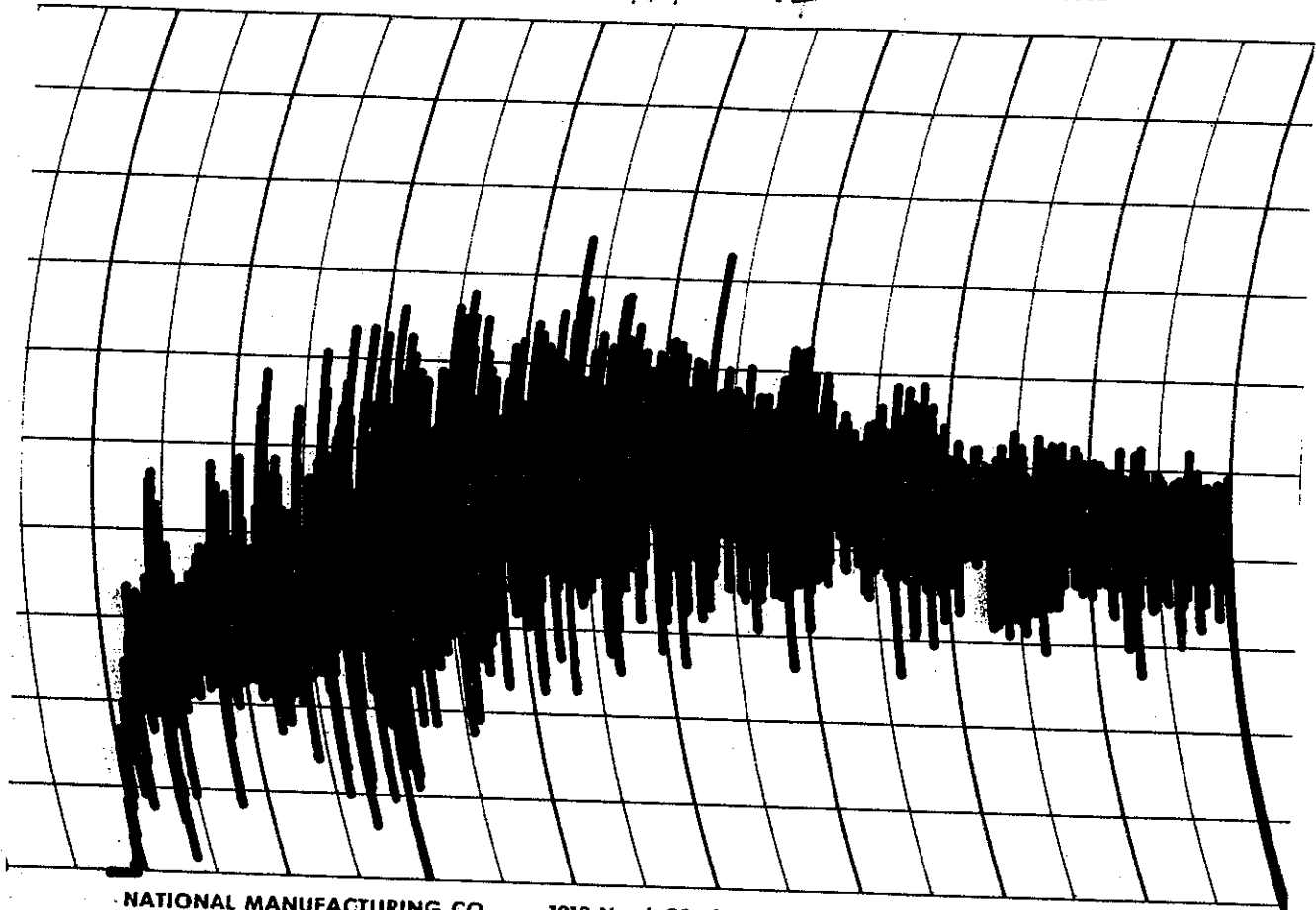
LB 90

14.7

3 3/4

Chart No. NMC 2310

OK



NATIONAL MANUFACTURING CO.

1218 North 22nd Street

LINCOLN, NEBRASKA 68503

88-929 6.43

G1250

Voyager

9100031

no.	variety	grade	test.wht	dh.	tw	mois.v	protn	wt.cl	hd	extn	mois	ash	protn	absn	peak	tol	mti	x.h	r.x	i	cc	sv	p	rk.
8944	lb	88-73	1	hrw	60.5	10.1	92	16.20		74.9	14.7		61.7	10.0	20.0	20.8	t	9	9	3096	6.82	✓		
8945	lb	88-74	1	hrw	60.4	10.2	84	16.20		74.1	14.3		62.7	10.0	20.0	20.7	t	8	9	8	2930	6.45	✓	
8946	lb	88-75	1	hrw	60.1	10.3	95	17.40		72.6	14.0		64.6	10.0	25.5	10.7	t	8	9	8	2875	6.33	✓	
8961	lb	88-90	1	hrw	60.7	10.2	94	15.40		72.5	13.5		62.4	10.0	31.0	15.9	t	8	9	8	2914	6.42	✓	
8962	lb	88-141	1	hrw	60.7	10.3	67	14.50		73.1	13.8		63.3	11.5	24.5	10.9	t	8	8	8	2799	6.16	✓	
8947	lb	88-76	2	hrw	59.7	10.2	79	15.90		73.4	13.7		63.8	12.0	25.5	10.7	t	8	9	8	3040	6.70	✓	
8948	lb	88-77	2	hrw	59.1	10.2	96	16.30		71.4	13.6		62.2	10.0	26.0	5.9	t	8	9	8	2890	6.36	✓	
8949	lb	88-78	2	hrw	59.8	10.2	94	15.20		72.0	13.7		61.2	10.0	24.0	5.9	t	8	9	9	3035	6.68	✓	
8950	lb	88-79	2	hrw	59.4	10.1	94	15.90		72.6	13.9		61.4	11.5	21.0	15.7	t	8	9	8	2925	6.44	✓	
8951	lb	88-80	2	hrw	59.6	10.3	95	15.50		70.4	13.7		61.8	10.0	26.0	15.9	t	8	9	8	3160	6.96	✓	
8952	lb	88-81	2	hrw	59.4	10.0	72	16.00		71.6	13.7		60.4	8.0	16.5	20.9	t	8	9	8	3102	6.83	✓	
8953	lb	88-82	2	hrw	59.3	10.3	68	15.40		72.4	13.5		62.6	12.0	19.0	20.9	t	8	9	6	2932	6.45	✓	
8956	lb	88-85	2	hrw	59.7	10.0	75	16.20		73.1	14.1		64.2	13.5	27.5	15.7	t	8	8	8	2800	6.16	✓	
8958	lb	88-87	2	hrw	59.4	10.1	97	17.00		73.8	13.9		65.9	10.0	32.0	20.9	t	8	9	8	3050	6.71	✓	
8959	lb	88-88	2	hrw	59.4	10.3	77	18.00		71.8	13.7		65.6	9.0	23.5	20.7	t	8	8	8	2985	6.57	✓	
8960	lb	88-89	2	hrw	59.9	10.1	89	17.70		72.6	13.8		58.2	10.0	25.0	10.9	t	8	9	8	3044	6.70	✓	
8963	lb	88-153	2	hrw	59.4	10.1	90	14.80		68.7	13.8		62.5	9.0	18.5	25.7	t	8	r	9	8	2800	6.16	✓
8954	lb	88-84	2	hrw	59.5	10.0	99	16.20		71.1	14.6		61.9	10.5	25.0	10.8	t	8	r	9	9	2775	6.10	✓
8955	lb	88-83	2	hrw	59.3	10.2	72	16.00		71.6	14.3		62.1	10.0	28.5	20.8	t	8	t	8	7	2730	6.01	✓
8957	lb	88-86	3	hrw	57.1	10.2	80	16.00		69.2	13.8													✓

noyager

*****farinograph*****m.d.t.

kn.wd.

test.wht

dh.

tw

mois.v

protn

wt.cl

hd

extn

mois

ash

protn

absn

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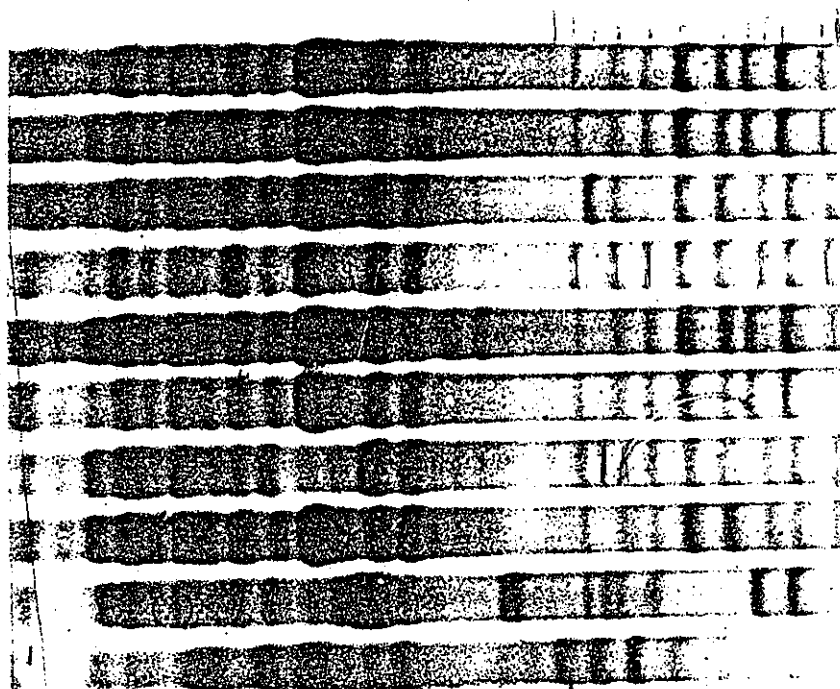
*****END REPORT*****

↑

ARRANGED IN ORDER
OF BEST GRADE

9100031

High
Molecular
Weight
Glutenin
Subunits



G-53 Advantage

G-1760

G-1250 Voyager

G-1990

G-1857 Haven

G-542

G-790

G-1759

G-56

G-7062

9100031

Location: 1988 Blocker3, Haven
 Conditions: Dryland
 Plot size: 43.33 sq. ft.
 Reps: 3

YIELD RANK	VARIETY	BU/A AVE.	IBS/A AVE.	K/H AVE.	J/M AVE.	% TEST AVE
* 1	G53	66.15	3968.86	4448.50	601.34	124.371
2	G1250 Voyager	58.99	3539.51	3967.26	536.29	110.917
3	G66s1	57.07	3424.32	3838.15	518.84	107.307
4	G1093	56.55	3392.90	3802.94	514.08	106.322
5	G33s4-5	56.20	3371.96	3779.46	510.90	105.666
6	G1092	56.02	3361.49	3767.73	509.32	105.338
7	G53s21	55.33	3319.60	3720.77	502.97	104.025
8	G1087	55.26	3315.41	3716.08	502.33	103.894
9	G53s4-5	53.58	3214.88	3603.40	487.10	100.744
10	G53-8	53.06	3183.46	3568.19	482.34	99.759
11	Newton	52.53	3152.05	3532.98	477.58	98.775
12	G33s11-12	51.31	3078.74	3450.81	466.48	96.478
13	G33s10	50.96	3057.80	3427.34	463.30	95.821
14	G33	49.85	2990.78	3352.22	453.15	93.721
15	Arkan	49.39	2963.55	3321.70	449.02	92.868
16	G33s1-2	47.65	2858.83	3204.33	433.16	89.587
17	G1069	45.55	2733.17	3063.48	414.12	85.649
18	G1082	41.89	2513.26	2816.99	380.80	78.757

Analysis of Variance

152750.80000000 = MSS

27.87500000 = RSS

1515.96900000 = TSS

616.67190000 = ESS

154911.30000000 = TOTAL SS

13.93750000 = RMS 2 DF

89.17464000 = TMS 17 DF

18.13741000 = EMS 34 DF

53 DF

2.03 = T(.05)

7.07 = LSD(.05)

4.26 = Standard Deviation

8.01 = CV

56.15 = HIGHYIELD

41.89 = LOWYIELD

53.19 = TRIAL MEAN

9100031

SELECTED DATA FROM 1989 YIELD TRIAL
HAVEN, KANSAS

1989 was a severe testing year with a sudden temperature drop in early February that caused much winter killing to many commercial as well as experimental wheats. Both Newton and Arkan checks were damaged but made good recovery. The drouth that followed also reduced the yields. The plot was fertilized expecting 60-80 bushel yields so protein readings are higher than expected.

VARIETY or EXPERIMENTAL	Bu./Acre Yields	PROTEIN % (as is moisture)
G542	46	16.5
G1857 (Haven)	39	16.7
G1600	39	17.4
G1093	38	16.1
Advantage	36	16.8
Newton (check)	36	14.6
Norkan (check)	36	16.3
G1113	36	16.9
G790	35	17.2
G1250 (Voyager)	35	16.1
G1598	33	17.6
G1759	33	19.2
Plainsman V	32	19.3
G1760	32	17.9
Arkan (check)	32	14.9

9100031

Location: 1990 GSR, Haven
 Conditions: Dryland
 Plot size: 43.33 sq. ft.
 Reps: 3

Yield Trial No. 5

YIELD RANK	VARIETY	BU/A AVE.	IBS/A AVE.	K/H AVE.	J/M AVE.	% TEST AVE
* 1	G1056	71.56	4293.49	4812.36	650.53	123.945
* 2	Advantage	69.73	4183.53	4689.12	633.87	120.771
* 3	G764	65.80	3947.91	4425.02	598.17	113.969
* 4	G1658	64.14	3848.43	4313.52	583.10	111.097
* 5	G761	63.09	3785.60	4243.09	573.58	109.283
* 6	G1648	62.05	3722.77	4172.67	564.06	107.469
* 7	G1027	61.87	3712.29	4160.93	562.47	107.167
8	G1816	60.91	3654.70	4096.37	553.74	105.504
9	G1857 (Haven)	60.56	3633.76	4072.90	550.57	104.900
10	ARKAN	60.48	3628.52	4067.03	549.78	104.749
11	G1650	59.78	3586.63	4020.08	543.43	103.539
12	G741	59.69	3581.40	4014.21	542.64	103.388
13	G1811	59.60	3576.16	4008.34	541.84	103.237
14	G752	59.08	3544.74	3973.13	537.08	102.330
15	G1812	58.21	3492.38	3914.44	529.15	100.819
16	G1693	58.03	3481.91	3902.71	527.56	100.516
17	G843	57.60	3455.73	3873.36	523.60	99.761
18	G840	56.55	3392.90	3802.94	514.08	97.947
19	G842	54.98	3298.65	3697.30	499.80	95.226
20	G1250 (Voyager)	48.61	2916.43	3268.88	441.88	84.192
21	G1658	47.65	2858.83	3204.33	433.16	82.529
22	G1817	45.64	2738.41	3069.35	414.91	79.053
23	G1663	45.13	2706.99	3034.13	410.15	78.146
24	NEWTON	34.91	2094.38	2347.49	311.33	60.461

Analysis of Variance

239989.10000000 = MSS

24.18750000 = RSS

4695.82800000 = TSS

1635.53100000 = ESS

246344.70000000 = TOTAL SS

12.09375000 = RMS 2 DF

204.16640000 = TMS 23 DF

35.55503000 = EMS 46 DF

71 DF

2.01 = T(.05)

9.80 = LSD(.05)

5.96 = Standard Deviation

10.33 = CV

71.56 = HIGHYIELD

34.91 = LOWYIELD

57.73 = TRIAL MEAN

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14E Exhibit E State of applicant's ownership

**This variety for which Plant Variety protection is hereby
sought was developed by Kenneth and Betty Goertzen, wheat
breeders for Goertzen Seed Research.**